

CLAIMS

1. A memory apparatus comprising:

main memory means;

redundant memory means for relieving a defect existing in the main memory means;

identification number storing means for storing an identification number corresponding to a main memory cell;

relief command input means to which a relief command including an identification number is inputted;

memory space severing means for severing a memory space corresponding to a defect existing in the main memory means from the main memory means so as to render the memory space inoperative; and

allocating means for allowing allocation of the redundant memory means so as for a defective memory space of the main memory means to be replaced with a memory space of the redundant memory means,

wherein the allocating means is operated in such a manner that, when an identification number included in a relief command coincides with an identification number stored in the identification number storing means, a memory space corresponding to a defect existing in the main memory means specified by the relief command inputted to the relief command input means is severed from the main memory means so as to be rendered inoperative,

when an identification number included in a relief command coincides with an identification number stored in the identification number storing means, a memory space corresponding to a defect existing in the main memory means specified by the relief command inputted to the relief command input means is replaced with a memory space of the redundant memory means,

and when an identification number included in a relief command does not coincide with an identification number stored in the identification number storing means, a memory space corresponding to a defect existing in the main memory means of another memory apparatus specified by the relief command inputted to the relief command input means is replaced with a memory space of the redundant memory means of the memory apparatus of interest.

2. The memory apparatus of claim 1, further comprising:
self-diagnostic means for checking a presence or absence of a defect in the main memory means and in the redundant memory means;

defective location storing means for storing a location of a defect existing in the main memory means;

relief information storing means for storing information on how the main memory means is repaired by the redundant memory means; and

redundancy-based relief request making means for demanding that, when it is found impossible for the memory apparatus of interest to repair the main memory means thereof by using the redundant memory means of its own, said main memory means should be given a relief by another memory apparatus electrically connected to the memory apparatus of interest.

3. The memory apparatus of claim 2, further comprising:
redundancy-based relief request receiving means for receiving a relief request from the redundancy-based relief request making means of another memory apparatus,

wherein the allocating means is operated in such a manner that, when there is a relief request from the redundancy-based relief request making means of another memory apparatus, a defective memory space of the main memory means of another memory apparatus is replaced with a memory space of the redundant memory means of the memory apparatus of interest.

4. The memory apparatus of claim 3, wherein the redundancy-based relief request receiving means is capable of receiving a relief request from the redundancy-based relief request making means of each and every memory apparatus.

5. The memory apparatus of claim 4, wherein the memory apparatus is such constituted that the other memory apparatuses

is stacked on a top thereof in thickwise direction, and the redundancy-based relief request making means and the redundancy-based relief request receiving means of all the memory apparatuses are electrically connected to a common electrode formed so as to pass through all the memory apparatuses in the thicknesswise direction.